

**CONVERSE CONSULTANTS
ORANGE COUNTY**Consulting Engineering
and Applied Sciences15245 Alton Parkway, Suite 100
Irvine, CA 92718-2307Telephone (714) 453-2880
Facsimile (714) 453-2888

December 12, 1995

Luis Lodrigueza
Hazardous Waste Specialist
Orange County Health Care Agency
2009 East Edinger
Santa Ana, CA 92705

SUBJECT: Soil Remediation Closure Report
Fullerton Business Park North
1551 East Orangethrope Avenue
Fullerton, California
OCHCA Case #94IC29
Converse Project No. 94-42871-05

Dear Mr. Lodrigueza:

Converse Consultants Orange County (Converse), on behalf of Red Eagle Properties, Ltd., is pleased to present this Soil Remediation Closure Report summarizing the compliance soil sampling activities at the above referenced property. These services were performed to verify the effects of the soil remediation work (soil vapor extraction system) conducted at the site between August and November 1995. For Site Vicinity, see Figure No. 1

BACKGROUND

Red Eagle Properties, Ltd. purchased the subject site from the Resolution Trust Corporation (RTC) in May 1994. The property was sold by Red Eagle Properties, Ltd. to Elden County Affaire, a furniture manufacturer, in March 1995.

Two on-site clarifiers were discovered during a previous Preliminary Site Assessment of the subject property conducted by Converse in 1992 for Red Eagle Properties, Ltd. The clarifiers were located in the northeast section of the property, on the southeastern side of the existing warehouse. Red Eagle Properties, Ltd. did not occupy the property and never conducted operations that utilized the two clarifiers.

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The clarifiers were removed in September 1994, prior to ownership or occupancy by Elden County Affaire. Chemical analyses of soil samples collected during the clarifier removals indicated elevated Total Recovery Petroleum Hydrocarbons (TRPH) and Tetrachloroethene (PCE) concentrations in soil adjacent to the southern-most clarifier. Converse recommended further investigation to assess the extent of PCE-impacted soil in the vicinity of this clarifier (Converse, 1994a).

Between October and December, 1994, Converse advanced seven (7) soil probes (BH-1 through BH-7) using a Geoprobe Systems sampling technique. For probe locations, see Figure No. 2. Detectable PCE concentrations were reported in soil samples from each probe location (BH-1, BH-2, BH-3, BH-5, and BH-7) except for locations BH-4 and BH-6. Relatively high PCE concentrations were reported in samples from probes BH-5 (from 84.5 to 96 parts per million) (Converse, 1994b). In January, 1995, Converse advanced nine (9) additional soil probes (BH-4A through BH-6A and BH-8 through BH-13) in the vicinity of the removed clarifier in an attempt to further assess the vertical and lateral extent of PCE-impacted soil and to confirm previous results (Converse, 1995a).

In March 1995, Converse advanced two soil borings BH-14 and BH-15 (hollow-stem auger) with the intent of installing groundwater monitoring wells, based on the assumption that groundwater was approximately 60 feet below ground surface (bgs). Groundwater was not encountered until approximately 115 feet bgs, and approximately 50 feet of non-impacted PCE soil was identified directly above the groundwater table. It was therefore concluded that groundwater had not been impacted by a release of PCE from the former clarifier, and the base of the PCE-impacted soil was defined at about 60 feet bgs. Based on these data, neither of the proposed groundwater monitoring wells were installed (Converse, 1995b).

In summary, relatively high PCE concentrations were reported in soil samples from locations BH-5/BH-5A and BH-8, located west and northwest of the former clarifier. Samples from the remainder of the sample locations contained detectable PCE concentrations, although at relatively lower concentrations than in soil from BH-5/BH-5A and BH-8. The highest reported PCE concentrations in each boring occurred consistently between about 20 and 25 feet bgs, within samples from the silty sand unit. Most of the sample locations reported interspersed detectable and nondetectable PCE concentrations with depth, which has been attributed to the non-uniform subsurface geology. Only five of the ten soil samples collected from a depth of 40 feet bgs reportedly contained detectable PCE concentrations.

As expressed in your letter dated December 14, 1994, the analytical results from the various investigation work has identified levels of PCE that create a public health excess lifetime cancer risk greater than the acceptable 1×10^{-6} level (based on the simplified vapor diffusion model).

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In order to reduce the concentration of the previously identified soil contaminants, associated with the former clarifier, Converse operated a soil vapor extraction and treatment system at the site. The soil remedial work was conducted in accordance with the Corrective Action Plan (CAP) dated July 26, 1995 (Converse, 1995c), and which was subsequently approved on July 31, 1995. The remediation system was operational between August 15, 1995 and November 27, 1995.

Converse issued a Soil Remediation System Progress Report, dated October 25, 1995, documenting the effectiveness of the remedial treatment system (Converse, 1995d). Based on the stabilized influent volatile organic compounds (VOCs) data collected during the latter stages of the remediation, Converse shut the remediation system down on November 10, 1995. The subsurface conditions were then allowed to equalize without the influence of the vapor extraction system for 10 days.

On November 20, 1995, Converse restarted the system and collected influent VOC measurements. The collected data indicated that there was not a restart spike in VOC concentration after the 10 day shutdown period; in fact, the VOC concentration continued to decline between November 20 and November 27, 1995, as compared to the November 10, 1995 data. Based on these data, it appeared that the remedial efforts had been successful in reducing the identified soil contaminants as reported in the Soil Remediation System Progress Report and Soil Sampling Work Plan, dated November 29, 1995 (Converse, 1995d and 1995e).

CLOSURE SOIL SAMPLING INVESTIGATION

The soil sampling work was conducted to verify that remedial activities were successful at the site and that the remaining soil contaminants do not create a public health excess lifetime cancer risk greater than the acceptable 1×10^{-6} level (based on the simplified vapor diffusion model). This work was conducted in accordance with the Soil Sampling Work Plan, dated November 29, 1995 (Converse, 1995e).

On December 1, 1995, Converse advanced three (3) soil probes in the previously identified impacted area using a Geoprobe soil sampling rig. Closure probes SP-1, SP-2, and SP-3 were each located near assessment borings BH-5/BH-5A, BH-8, and BH-9, respectively. Soil samples were collected at five foot intervals from each probe location, up to a total depth between 25 and 40 feet below ground surface. Each soil sample was field screened with an flame ionizing Organic Vapor Analyzer (OVA). The soil probe sampling locations and total depth of each probe are presented on Figure No. 2. For logs of the soil probes SP-1, SP-2, and SP-3, see Appendix A.

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Each soil sample was properly sealed, labelled, and stored in an ice-cooled chest and delivered to a State of California, DHS certified laboratory for chemical analyses. Proper chain-of-custody protocol was followed for all samples. Soil samples indicating the highest OVA measurement were selected for analysis and chemically analyzed for VOCs using EPA Test Method 8010.

CLOSURE SOIL SAMPLING RESULTS

PCE concentrations between 0.3 and 13.7 parts per million (ppm) were detected in soil samples collected from SP-1. PCE concentrations between 6.2 and 25.3 ppm were detected in samples from SP-2, and 1.3 and 16 ppm in two samples from SP-3.

Additionally, lower concentrations of 1,1-Dichloroethene (1,1-DCE), 1,1,1-Trichloroethane (1,1,1-TCA), and Trichloroethene (TCE) were also detected between 20 and 30 feet bgs in samples collected from SP-1, between 15 and 30 feet bgs in samples from SP-2, and in one sample from SP-3. For the laboratory results of the soil samples collected and analyzed in December 1995, see Table 1.

Based on the laboratory results for the soil samples collected from SP-1, PCE concentrations have been significantly reduced by the remediation system from 84.5 to 0.33 ppm (15 feet bgs), from 96 to 12.8 ppm (20 feet bgs), and from 88 to 13.7 ppm (25 feet bgs). Results from SP-2 indicate significant PCE reduction from 32 to 6.2 ppm (15 feet bgs), 26 to 12 ppm (20 feet bgs), 92 to 25.3 ppm (25 feet bgs), and 15 to 10.6 ppm (30 feet bgs). Reduction of detectable PCE concentrations was detected in SP-3 from 18 to 16 ppm (25 feet bgs). For comparison of the soil analytical data collected prior and after the remediation system operation, see Table 1. For soil analytical report from the December 1, 1995 investigation, see Appendix B.

CONCLUSIONS

Based on the laboratory results of soil samples collected and analyzed from soil probes SP-1, SP-2 and SP-3, significant reduction of PCE concentrations have occurred since the initial site investigations. The Converse soil vapor extraction and treatment system was successful in reduction of the concentrations of the previously identified soil contaminants, associated with the former clarifier. Converse requests that the recent analytical results be evaluated in accordance with the simplified vapor diffusion model to identify if the levels of PCE create a public health excess lifetime cancer risk greater than the acceptable 1×10^{-6} level. If the model results are favorable, Converse, on behalf of Red Eagle Properties, Ltd. requests that site closure be granted and that no further investigation or remediation work be requested for the subject site.

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Mr. Luis Lodrigueza
Orange County Health Care Agency
Converse Project No. 95-42871-05
December 12, 1995
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If you have any questions or require additional information, please contact the undersigned at (714) 453-2880.

Sincerely,

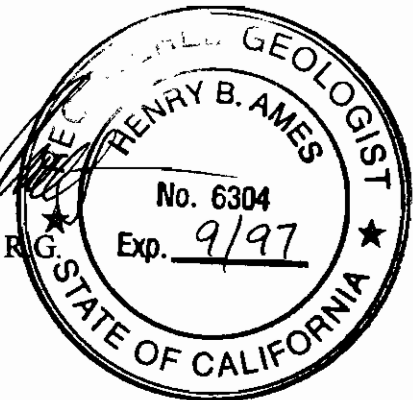
CONVERSE CONSULTANTS ORANGE COUNTY

Joseph Radonich

Joseph Radonich
Project Environmental Scientist

Henry B. Ames

Henry B. Ames, R.G.
Senior Geologist



JR/HBA/GSS

Attachments References

Table 1: Laboratory Results of Soil Samples
Figure 1: Vicinity Map
Figure 2: Site Layout Map
Appendix A: Soil Probe Logs
Appendix B: Laboratory Analytical Report

cc: Carl Ross & Mark Boen, Red Eagle Properties, Ltd.
 Augustine Anijelo, Santa Ana Regional Water Quality Control Board
 Mr. Gene Rosecrans, Community Bank
 Mr. Roger Turner
 Mr. Alan Needle, Country Affair



REFERENCES

REFERENCES

Converse Consultants Orange County, 1994a, Clarifier Removal and Soil Analysis, Fullerton Business Park North, dated October 18, 1994.

Converse Consultants Orange County, 1994b, Site Characterization Summary Report, Fullerton Business Park North, dated November 11, 1994.

Converse Consultants Orange County, 1995a, Summary Report, Additional Site Characterization, Fullerton Business Park North, dated January 26, 1995.

Converse Consultants Orange County, 1995b, Summary Report of Additional Site Characterization, Fullerton Business Park North, dated May 18, 1995.

Converse Consultants Orange County, 1995c, Corrective Action Plan, Fullerton Business Park North, dated July 26, 1995.

Converse Consultants Orange County, 1995d, Soil Remediation System Progress Report, Fullerton Business Park North, dated October 25, 1995.

Converse Consultants Orange County, 1995e, Soil Sampling Work Plan, Fullerton Business Park North, dated November 29, 1995.



TABLES

TABLE 1
Laboratory Results of Soil Samples
Fullerton Business Park North
Fullerton, California
(Converse Project No. 94-42-871-04)

EPA Laboratory Method 8010 - Purgeable Halocarbons

Results in Parts Per Million

Sample Depth (feet)	Assessment Boring		Closure Boring SP-1				Assessment Boring BH-8	Closure Boring SP-2			Assessment Boring BH-9	Closure Boring SP-3		
	BH-5	BH-5A	PCE	1,1-DCE	1,1,1-TCA	TCE	PCE	PCE	1,1,1-TCA	TCE	PCE	PCE	1,1,1-TCA	TCE
15	84.5	--	0.33	ND	ND	ND	32	6.2	0.59	1.1	ND	--	--	--
20	96	--	12.8	3.1	0.67	ND	26	12	5.6	3.4	ND	1.3	ND	ND
25	88	--	13.7	0.89	19.6	0.48	92	25.3	6.0	1.0	18	16	12	0.56
30	--	17.5	0.30	ND	0.11	0.078	15	10.6	0.9	1.2	ND	--	--	--
35	--	1.07	--	--	--	--	ND	--	--	--	ND	NS	NS	NS
40	--	0.028	--	--	--	--	ND	NS	NS	NS	ND	NS	NS	NS
Date Sampled	12/94	1/95	12/95				1/95	12/95			1/95	12/95		

LEGEND:

PCE = Tetrachloroethene

1,1-DCE = 1,1-Dichloroethene

1,1,1-TCA = 1,1,1-Trichloroethane

TCE = Trichloroethene

parts per million = milligrams per kilogram (mg/kg)

ND = Not Detected above method detection limits

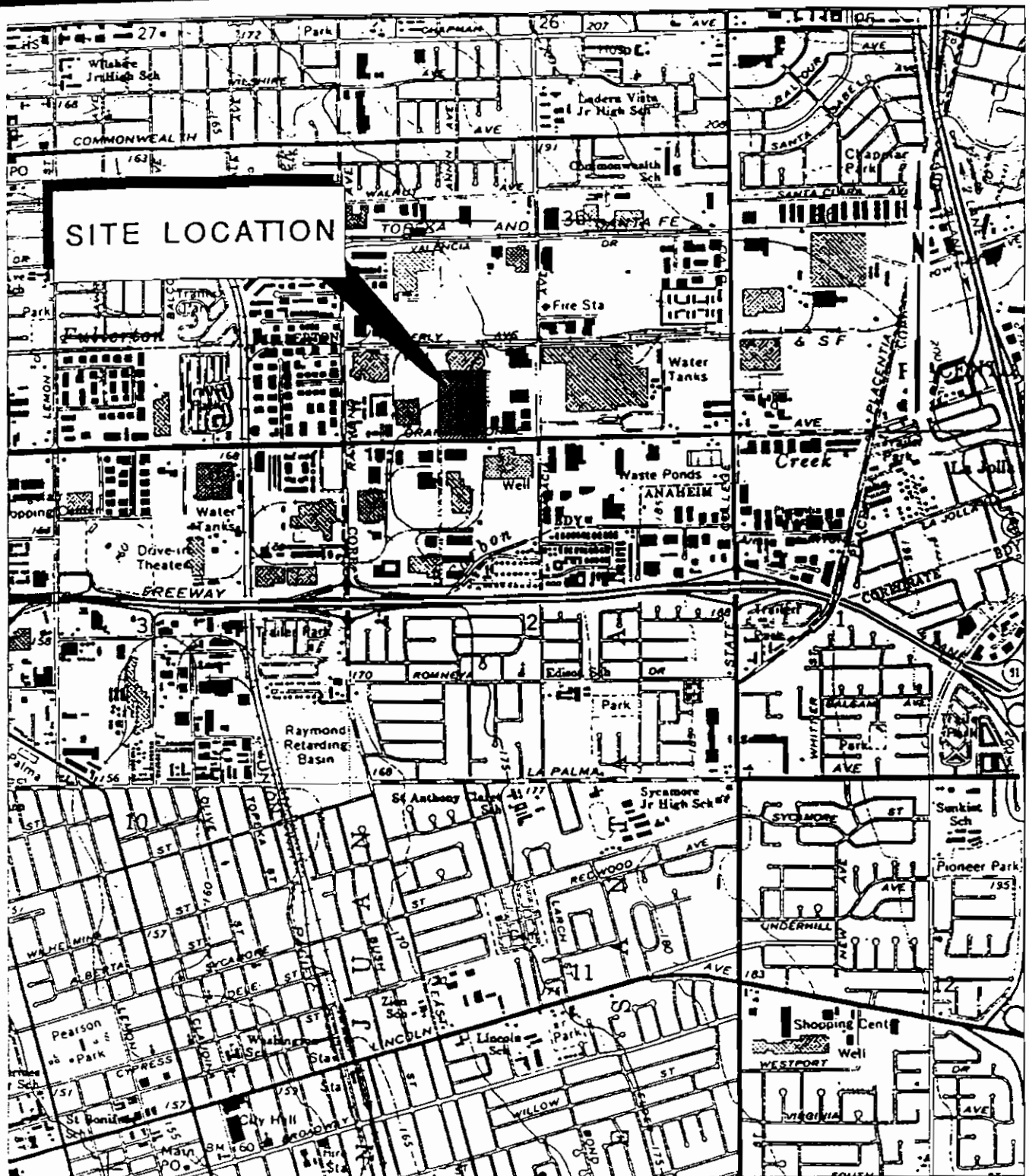
-- = Not Analyzed

NS = No Sample Collected

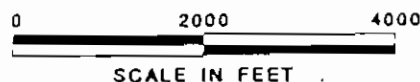
Note - All other target compounds were not detected. See laboratory analytical report.



FIGURES



Reference: U.S.G.S Topographic Map, 7.5 Minute Series, Anaheim, California Quadrangle, Dated 1965, (Photorevised 1981).



VICINITY MAP

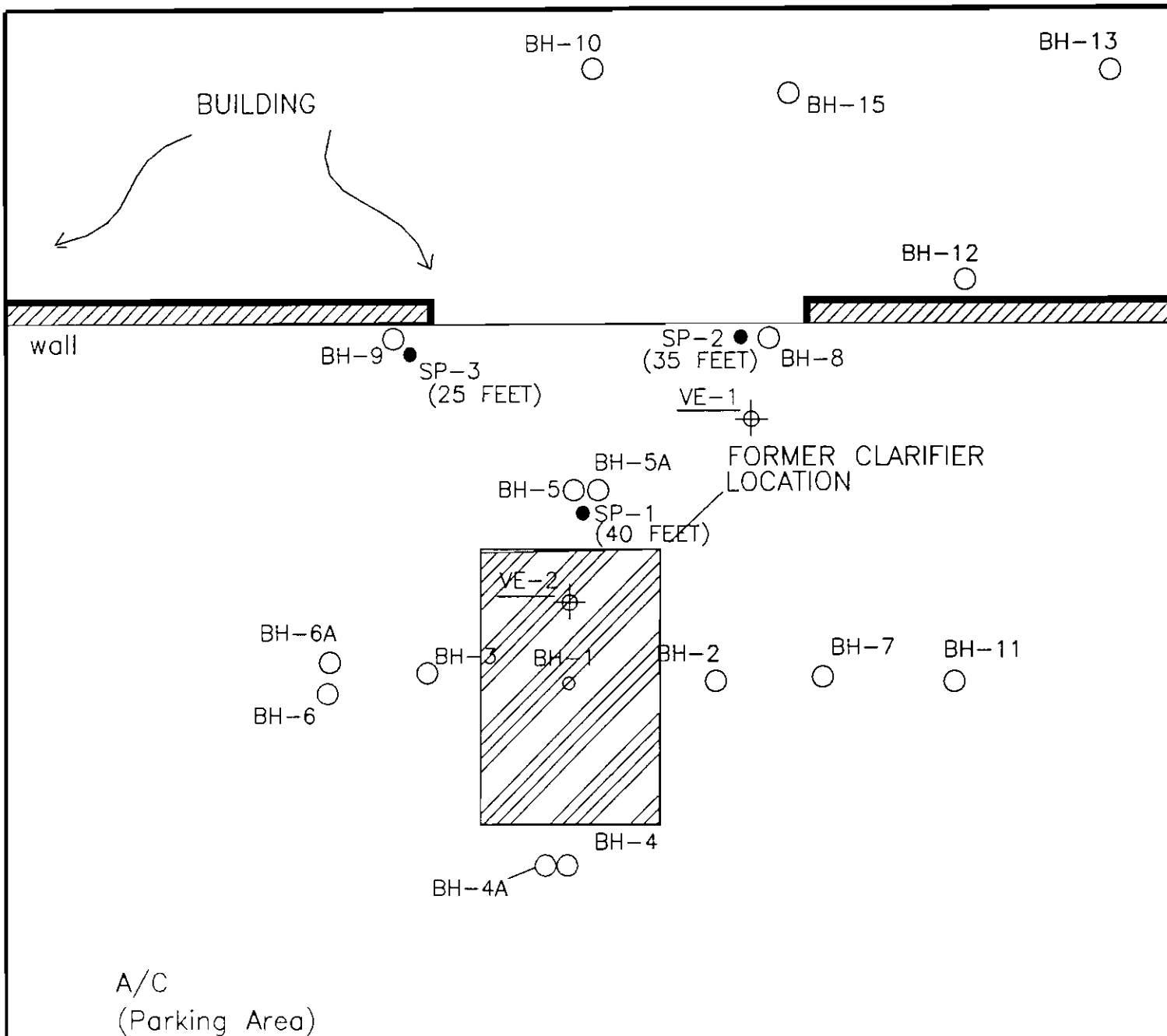
SITE CHARACTERIZATION
1551 East Orangethorpe Avenue
Fullerton, California

Project No.

94-42871-05

Figure No.

1



LEGEND

- BH-15 ○ Soil Probe Location (prior to December 1995)
- VE-2 ⊕ Approximate location of vapor extraction well
- SP-3 ● Soil Closure Probe Location, December 1995, (Investigation depth)

○ BH-14

NOTE:

This figure is part of Converse Consultants Orange County Soil Remediation Closure Report dated December 12, 1995.



Converse Consultants
Orange County

Consulting Engineering
and Applied Sciences

SITE LAYOUT MAP

Fullerton Business Park North
1551 East Orangethorpe Avenue
Fullerton, California

DATE: 12/11/95

PROJECT NO:

94-42871-05

FIGURE NO:

SCALE: 1" = 8'

CHECKED BY:

KBA

2



APPENDIX A

LOG OF: SP-1

PROJECT NAME	<u>RED EAGLE/FULLERTON</u>	CONTRACTOR	<u>VIRONEX</u>
PROJECT NO.	<u>94-42871-04</u>	DRILLER(S)	<u>VIRONEX</u>
SITE GEOLOGIST(S)	<u>HBA</u>	RIG/METHOD	<u>GEOPROBE</u>
LOGGED BY	<u>SSM</u>	SCREEN INTERVAL	<u>N/A</u>
		DRLR TD(ft)	<u>41.00</u>
		WELL CONST TD(ft)	<u>N/A</u>

ELEVATIONS(REL. MSL)	LOCATION	T3S R 10W SEC.35 1/4
GRADE LEVEL (ft)	CITY	FULLERTON CO OR
TOP OF CASING (ft)	COORDINATES (ft)	

RECORD:	DATE/TIME	GROUNDWATER:	DEPTH(ft)	DATE/TIME
DRLG/CORING	12/1/95	▽ ATD		N/A
WELL CONST	N/A	▽ SWL*		N/A
WELL DEVELOP	N/A	≡ SPL*	N/A	N/A
BACKFILL	12/1/95	(* PRIOR TO INITIAL DEVELOPMENT)		

PID/OVA CALIBRATION DATE: 12/1/95 CALIBRATION UNITS: 95 ppm
THE PID/OVA SIGNAL (READING) PRODUCED REPRESENTS A QUALITATIVE MEASURE OF IONIZABLE
ORGANIC POLLUTANTS.
THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING.
SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE
PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

ENV SAMPLE		PID/OVA READING	DEPTH (ft)	LITHOLOGICAL PROFILE Gvl -Gravel > 2.0 mm Scr -Coarse Sand 2.00-0.50 mm Smd -Medium Sand 0.50-0.25 mm Sfn -Fine Sand 0.25-0.062 mm SlT -silt <0.062 mm Cl -Clay/Mud	PID/OVA CALIBRATION DATE: 12/1/95 CALIBRATION UNITS: 95 ppm THE PID/OVA SIGNAL (READING) PRODUCED REPRESENTS A QUALITATIVE MEASURE OF IONIZABLE ORGANIC POLLUTANTS. THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.	GRAPHIC LOG	WELL CONSTRUCTION	MOISTURE	SOIL CLASSIFICATION	DESCRIPTION OVERALL LITHOLOGY, TEXTURE, COLOR AND, FOR SAND AND GRAVEL SIZE RANGE AND MEDIAN, ANGULARITY/ROUNDNESS, SORTING, ACCESSORY MINERALS AND FOSSILS, % QUARTZ, % FELDSPAR, % LITHIC FRAGMENTS BEDFORMS AND OTHER SEDIMENTARY STRUCTURES.
			0	Gvl Scr Smd Sfn SlT Cl						<u>ASPHALT</u>
1	40		5				sm	SP		<u>SAND:</u> FINE TO MEDIUM GRAINED, LT. BROWN, SOME SILT.
2	5		10				sm	SP		<u>AS ABOVE</u>
3	30		15				sm sm	ML SP		<u>SILT:</u> BROWN, SOME CLAY. <u>SAND:</u> FINE TO MEDIUM GRAINED, LT. BROWN.
4	250		20				sm	SM		<u>SAND w/ SILT:</u> FINE TO MEDIUM GRAINED, BROWN.
			25							



ENV SAMPLE		PID/OVA READING	DEPTH (ft)	LITHOLOGICAL PROFILE						CONVERSE CONSULTANTS ORANGE COUNTY			SHEET 2 OF 2	
				Gvl	Scr	Smd	Sfn	Slt	Cl	PROJECT NAME <u>RED EAGLE/FULLERTON</u>			LOG OF: <u>SP-1</u>	
				PROJECT NO <u>94-42871-04</u>										



PROJECT NAME RED EAGLE/FULLERTON CONTRACTOR VIRONEX
 PROJECT NO. 94-42871-04 DRILLER(S) VIRONEX
 SITE GEOLOGIST(S) HBA RIG/METHOD GEOPROBE
 LOGGED BY SSM SCREEN INTERVAL N/A
 DRLR TD(ft) 36.00 WELL CONST TD(ft) N/A

ELEVATIONS(REL. MSL) LOCATION T3S R 10W SEC.35 1/4
 GRADE LEVEL (ft) N/A CITY FULLERTON CO OR
 TOP OF CASING (ft) N/A COORDINATES (ft)

RECORD: DATE/TIME GROUNDWATER: DEPTH(ft) DATE/TIME
 DRLG/CORING 12/1/95 ATD N/A
 WELL CONST N/A SWL* N/A
 WELL DEVELOP N/A SPL* N/A
 BACKFILL 12/1/95 (* PRIOR TO INITIAL DEVELOPMENT)

ENV SAMPLE	PID/OVA READING	DEPTH (ft)	LITHOLOGICAL PROFILE						GRAPHIC LOG	WELL CONSTRUCTION	MOISTURE	SOIL CLASSIFICATION	DESCRIPTION
			Gvl	Scr	Smd	Sfn	Slt	Cl					
			Gvl - Gravel > 2.0 mm Scr - Coarse Sand 2.00-0.50 mm Smd - Medium Sand 0.50-0.25 mm Sfn - Fine Sand 0.25-0.062 mm Slt - Silt <0.062 mm Cl - Clay/Mud										PID/OVA CALIBRATION DATE: <u>12/1/95</u> CALIBRATION UNITS: <u>95 ppm</u> THE PID/OVA SIGNAL (READING) PRODUCED REPRESENTS A QUALITATIVE MEASURE OF IONIZABLE ORGANIC POLLUTANTS. THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.
		0											ASPHALT
1	2	5									sm	SP	SAND: FINE TO MEDIUM GRAINED, LT. BROWN, SOME SILT.
2	3	10									sm	SP	AS ABOVE
3	150	15									sm	ML	SANDY SILT: BROWN, SOME CLAY, FINE TO MEDIUM GRAINED SAND.
4	220	20									sm	SM	SILTY SAND: FINE TO MEDIUM GRAINED, BROWN.
		25											

ENV SAMPLE PID/QVA READING		DEPTH (ft)	LITHOLOGICAL PROFILE						CONVERSE CONSULTANTS ORANGE COUNTY			SHEET 2 OF 2	
			Gvl	Scr	Smd	Sfn	Slr	Cl	PROJECT NAME <u>RED EAGLE/FULLERTON</u>			LOG OF: <u>SP-2</u>	
									PROJECT NO <u>04-42871-04</u>				



PROJECT NAME <u>RED EAGLE/FULLERTON</u>		CONTRACTOR <u>VIRONEX</u>	
PROJECT NO. <u>94-42871-04</u>		DRILLER(S) <u>VIRONEX</u>	
SITE GEOLOGIST(S) <u>HBA</u>		RIG/METHOD <u>GEOPROBE</u>	
LOGGED BY <u>SSM</u>		SCREEN INTERVAL <u>N/A</u>	
		DRLR TD(ft) <u>26.00</u> WELL CONST TD(ft) <u>N/A</u>	
ELEVATIONS(REL. MSL)		LOCATION <u>T3S R 10W SEC.35 1/4</u>	
GRADE LEVEL (ft) <u>N/A</u>		CITY <u>FULLERTON</u> CO <u>OR</u>	
TOP OF CASING (ft) <u>N/A</u>		COORDINATES (ft)	

RECORD:	DATE/TIME	GROUNDWATER:	DEPTH(ft)	DATE/TIME
DRLG/CORING	<u>12/1/95</u>	▼ ATD		<u>N/A</u>
WELL CONST	<u>N/A</u>	▽ SWL*		<u>N/A</u>
WELL DEVELOP	<u>N/A</u>	≡ SPL*	<u>N/A</u>	<u>N/A</u>
BACKFILL	<u>12/1/95</u>	(* PRIOR TO INITIAL DEVELOPMENT)		

ENV SAMPLE	PID/OVA READING	DEPTH (ft)	LITHOLOGICAL PROFILE					PID/OVA CALIBRATION DATE: <u>12/1/95</u> CALIBRATION UNITS: <u>95 ppm</u>					DESCRIPTION
			Gvl -Gravel > 2.0 mm	Scr -Coarse Sand 2.00-0.50 mm	Smd -Medium Sand 0.50-0.25 mm	Sfn -Fine Sand 0.25-0.062 mm	Slt -Silt <0.062 mm	Cl -Clay/Mud	THE PID/OVA SIGNAL (READING) PRODUCED REPRESENTS A QUALITATIVE MEASURE OF IONIZABLE ORGANIC POLLUTANTS. THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.				
			Gvl	Scr	Smd	Sfn	Slt	Cl	GRAPHIC LOG	WELL CONSTRUCTION	MOISTURE	SOIL CLASSIFICATION	
		0											ASPHALT
1	0	5								sm	SP		SAND: FINE TO MEDIUM GRAINED, LT. BROWN, SOME SILTY.
2	0	10								sm	SP		AS ABOVE
3	50	15								sm	CL		CLAY W/ SILT: DRK. BROWN, SOME SAND.
4	10	20								m	SM		SILTY SAND: FINE TO MEDIUM GRAINED, DRK. BROWN.
		25											



ENV SAMPLE		PID/OVA READING	DEPTH (ft)	LITHOLOGICAL PROFILE Gvl -Gravel > 2.0 mm Scr -Coarse Sand 2.00-0.50 mm Smd -Medium Sand 0.50-0.25 mm Sfn -Fine Sand 0.25-0.062 mm slt -Silt <0.062 mm cl -Clay/Mud	GRAPHIC LOG	WELL CONSTRUCTION	MOISTURE	SOIL CLASSIFICATION	DESCRIPTION OVERALL LITHOLOGY, TEXTURE, COLOR AND, FOR SAND AND GRAVEL SIZE RANGE AND MEDIAN, ANGULARITY/ROUNDNESS, SORTING, ACCESSORY MINERALS AND FOSSILS, % QUARTZ, % FELDSPAR, % LITHIC FRAGMENTS BEDFORMS AND OTHER SEDIMENTARY STRUCTURES.
5	320		25	Gvl Scr Smd Sfn slt cl			sm	SM	AS ABOVE PROBER'S TOTAL DEPTH = 26.0 FEET BELOW GROUND SURFACE (BGS). NO FREE GROUND WATER ENCOUNTERED BGS. BACKFILLED WITH BENTONITE CHIPS.
			30						
			35						
			40						
			45						
			50						
			55						
			60						
			65						



APPENDIX B

**ASSOCIATED LABORATORIES****806 North Batavia - Orange, California 92668 - 714/771-8900****FAX 714/538-1209****CLIENT**

Converse Environmental West (4708)
Attn: Henry Ames
15245 Alton Parkway
Suite 100
Irvine, CA 92718

LAB NO H10300-01
REPORTED 12/07/95

SAMPLE

Soil - SP-1/3'

RECEIVED 12/01/95

IDENTIFICATION

Prowestern
Date Collected 12/01/95
As Submitted

BASED ON SAMPLE**PURGEABLE HALOCARBONS**

<u>Constituent</u>	<u>Method</u>	<u>Date/Analyst</u>	<u>Result</u>
Tetrachloroethene	EPA 8010	12/03/95 RR	0.33 mg/kg

All Other Target Compounds Were None Detected. See Attached List.

ASSOCIATED LABORATORIES, by:


Edward S. Benare, Ph.D.
Vice President

ESB/ql

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING

Chemical •

Microbiological •

Environmental •

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ASSOCIATED LABORATORIES

808 North Batavia - Orange, California 92668 - 714/771-8900

FAX 714/538-1209

CLIENT

Converse Environmental West (4708)
Attn: Henry Ames
15245 Alton Parkway
Suite 100
Irvine, CA 92718

LAB NO H10300-02
REPORTED 12/07/95

SAMPLE

Soil - SP-1/4'

RECEIVED 12/01/95

IDENTIFICATION

Prowestern
Date Collected 12/01/95
As Submitted

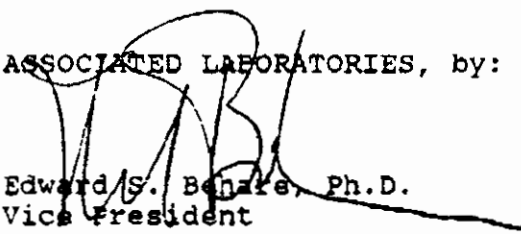
BASED ON SAMPLE

PURGEABLE HALOCARBONS

<u>Constituent</u>	<u>Method</u>	<u>Date/Analyst</u>	<u>Result</u>
1,1-Dichloroethene	EPA 8010	12/03/95 RR	3.1 mg/kg
1,1,1,-Trichloroethane	EPA 8010	12/03/95 RR	0.67 mg/kg
Tetrachloroethene	EPA 8010	12/03/95 RR	12.8 mg/kg

All Other Target Compounds Were None Detected. See Attached List.

ASSOCIATED LABORATORIES, by:


Edward S. Behrke, Ph.D.
Vice President

ESB/ql

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.


ASSOCIATED LABORATORIES
806 North Batavia - Orange, California 92668 - 714/771-8900
FAX 714/538-1209
CLIENT

Converse Environmental West (4708)
 Attn: Henry Ames
 15245 Alton Parkway
 Suite 100
 Irvine, CA 92718

LAB NO H10300-03
 REPORTED 12/07/95

SAMPLE

Soil - SP-1/5'

RECEIVED 12/01/95

IDENTIFICATION

Prowestern
 Date Collected 12/01/95
 As Submitted

BASED ON SAMPLE
PURGEABLE HALOCARBONS

<u>Constituent</u>	<u>Method</u>	<u>Date/Analyst</u>	<u>Result</u>
1,1-Dichloroethane	EPA 8010	12/03/95 RR	0.89 mg/kg
1,1,1-Trichloroethane	EPA 8010	12/03/95 RR	19.6 mg/kg
Trichloroethene	EPA 8010	12/03/95 RR	0.48 mg/kg
Tetrachloroethene	EPA 8010	12/03/95 RR	13.7 mg/kg

All Other Target Compounds Were None Detected. See Attached List.

ASSOCIATED LABORATORIES, by:

Edward S. Behave, Ph.D.
 Vice President

ESB/ql

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

**ASSOCIATED LABORATORIES**

806 North Batavia - Orange, California 92668 - 714/771-6900

FAX 714/538-1209

CLIENT

Converse Environmental West (4708)
Attn: Henry Ames
15245 Alton Parkway
Suite 100
Irvine, CA 92718

LAB NO. H10300-04
REPORTED 12/07/95

SAMPLE

Soil - SP-1/6'

RECEIVED
12/01/95

IDENTIFICATION

Prowestern
Date Collected 12/01/95
As Submitted

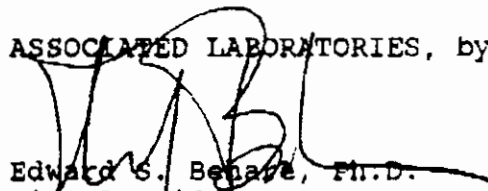
BASED ON SAMPLE

PURGEABLE HALOCARBONS

<u>Constituent</u>	<u>Method</u>	<u>Date/Analyst</u>	<u>Result</u>
1,1,1-Trichloroethane	EPA 8010	12/03/95 RR	0.11 mg/kg
Trichloroethene	EPA 8010	12/03/95 RR	0.078 mg/kg
Tetrachloroethene	EPA 8010	12/03/95 RR	0.30 mg/kg

All Other Target Compounds Were None Detected. See Attached List.

ASSOCIATED LABORATORIES, by:



Edward S. Benave, Ph.D.
Vice President

ESB/ql

NOTE: Unless notified in writing, all samples will be discarded
by appropriate disposal protocol 30 days from date reported.

**ASSOCIATED LABORATORIES**

808 North Batavia - Orange, California 92668 - 714/771-8900

FAX 714/538-1209

CLIENT

Converse Environmental West (4708)
Attn: Henry Ames
15245 Alton Parkway
Suite 100
Irvine, CA 92718

LAE NO. H10300-05
REPORTED 12/07/95

SAMPLE

Soil - SP-2/3'

RECEIVED
12/01/95

IDENTIFICATION

Prowestern
Date Collected 12/01/95
As Submitted

BASED ON SAMPLE

PURGEABLE HALOCARBONS

<u>Constituent</u>	<u>Method</u>	<u>Date/Analyst</u>	<u>Result</u>
1,1,1-Trichloroethane	EPA 8010	12/03/95 RR	0.59 mg/kg
Trichloroethene	EPA 8010	12/03/95 RR	1.1 mg/kg
Tetrachloroethene	EPA 8010	12/03/95 RR	6.2 mg/kg

All Other Target Compounds Were None Detected. See Attached List.

ASSOCIATED LABORATORIES, by:



Edward S. Benare, Ph.D.
Vice President

ESB/ql

NOTE: Unless notified in writing, all samples will be discarded
by appropriate disposal protocol 30 days from date reported.

**ASSOCIATED LABORATORIES**

806 North Batavia - Orange, California 92668 - 714/771-6800

FAX 714/538-1209**CLIENT**

Converse Environmental West (4708)
Attn: Henry Ames
15245 Alton Parkway
Suite 100
Irvine, CA 92718

LAB NO H10300-06
REPORTED 12/07/95

SAMPLE

Soil - SP-2/4'

RECEIVED
12/01/95

IDENTIFICATION

Prowestern
Date Collected 12/01/95
As Submitted

BASED ON SAMPLE**PURGEABLE HALOCARBONS**

<u>Constituent</u>	<u>Method</u>	<u>Date/Analyst</u>	<u>Result</u>
1,1,1-Trichloroethane	EPA 8010	12/03/95 RR	5.6 mg/kg
Trichloroethene	EPA 8010	12/03/95 RR	3.4 mg/kg
Tetrachloroethene	EPA 8010	12/03/95 RR	12.0 mg/kg

All Other Target Compounds Were None Detected. See Attached List.

ASSOCIATED LABORATORIES, by:



Edward S. Behere, Ph.D.
Vice President

ESB/ql

NOTE: Unless notified in writing, all samples will be discarded
by appropriate disposal protocol 30 days from date reported.

**ASSOCIATED LABORATORIES**

808 North Batavia - Orange, California 92668 - 714/771-8900

FAX 714/538-1209

CLIENT

Converse Environmental West (4708)
Attn: Henry Ames
15245 Alton Parkway
Suite 100
Irvine, CA 92718

LAB NO H10300-07
REPORTED 12/07/95

SAMPLE

Soil - SP-2/5'

RECEIVED

12/01/95

IDENTIFICATION

Prowestern
Date Collected 12/01/95
As Submitted

BASED ON SAMPLE

PURGEABLE HALOCARBONS

<u>Constituent</u>	<u>Method</u>	<u>Date/Analyst</u>	<u>Result</u>
1,1,1-Trichloroethane	EPA 8010	12/03/95 RR	6.0 mg/kg
Trichloroethene	EPA 8010	12/03/95 RR	1.0 mg/kg
Tetrachloroethene	EPA 8010	12/03/95 RR	25.3 mg/kg

All Other Target Compounds Were None Detected. See Attached List.

ASSOCIATED LABORATORIES, by:



Edward S. Benare, Ph.D.
Vice President

ESB/ql

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by appropriate disposal protocol 30 days from date reported.

**ASSOCIATED LABORATORIES**

806 North Batavia - Orange, California 92668 - 714/771-8900

FAX 714/538-1209**CLIENT**

Converse Environmental West (4708)
Attn: Henry Ames
15245 Alton Parkway
Suite 100
Irvine, CA 92718

LAB NO H10300-08
REPORTED 12/07/95

SAMPLE

Soil - SP-2/6'

RECEIVED

12/01/95

IDENTIFICATION

Prowestern
Date Collected 12/01/95
As Submitted

BASED ON SAMPLE**PURGEABLE HALOCARBONS**

<u>Constituent</u>	<u>Method</u>	<u>Date/Analyst</u>	<u>Result</u>
1,1,1-Trichloroethane	EPA 8010	12/03/95 RR	0.90 mg/kg
Trichloroethene	EPA 8010	12/03/95 RR	1.2 mg/kg
Tetrachloroethene	EPA 8010	12/03/95 RR	10.6 mg/kg

All Other Target Compounds Were None Detected. See Attached List.

ASSOCIATED LABORATORIES, by:



Edward S. Behare, Ph.D.
Vice President

ESB/ql

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by appropriate disposal protocol 30 days from date reported.

TESTING & CONSULTING

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FAX 714/538-1209

CLIENT

Converse Environmental West (4708)
Attn: Henry Ames
15245 Alton Parkway
Suite 100
Irvine, CA 92718

LAB NO H10300-09
REPORTED 12/07/95

SAMPLE

Soil - SP-3/4'

RECEIVED

12/01/95

IDENTIFICATION

Prowestern
Date Collected 12/01/95
As Submitted

BASED ON SAMPLE

PURGEABLE HALOCARBONS

<u>Constituent</u>	<u>Method</u>	<u>Date/Analyst</u>	<u>Result</u>
Tetrachloroethene	EPA 8010	12/03/95 RR	1.3 mg/kg

All Other Target Compounds Were None Detected. See Attached List.

ASSOCIATED LABORATORIES, by:


Edward S. Behar, Ph.D.
Vice President

ESB/ql

NOTE: Unless notified in writing, all samples will be discarded
by appropriate disposal protocol 30 days from date reported.

**ASSOCIATED LABORATORIES**

808 North Batavia - Orange, California 92668 - 714/771-8900

FAX 714/538-1209

CLIENT

Converse Environmental West (4708)
Attn: Henry Ames
15245 Alton Parkway
Suite 100
Irvine, CA 92718

LAB NO H10300-10
REPORTED 12/07/95

SAMPLE

Soil - SP-3/5'

RECEIVED
12/01/95

IDENTIFICATION

Prowestern
Date Collected 12/01/95
As Submitted

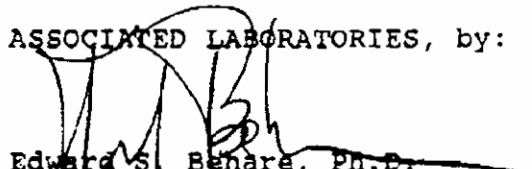
BASED ON SAMPLE

PURGEABLE HALOCARBONS

<u>Constituent</u>	<u>Method</u>	<u>Date/Analyst</u>	<u>Result</u>
1,1,1-Trichloroethane	EPA 8010	12/03/95 RR	12.0 mg/kg
Trichloroethene	EPA 8010	12/03/95 RR	0.56 mg/kg
Tetrachloroethene	EPA 8010	12/03/95 RR	16.0 mg/kg

All Other Target Compounds Were None Detected. See Attached List.

ASSOCIATED LABORATORIES, by:



Edward S. Behare, Ph.D.
Vice President

ESB/ql

NOTE: Unless notified in writing, all samples will be discarded
by appropriate disposal protocol 30 days from date reported.

Client: Converse Environmental West
Lab No.: H10300-01, 04
Date: December 07, 1995

<u>PURGEABLE HALOCARBONS-EPA METHOD 8010</u>	<u>LIMITS OF DETECTION</u> <u>(ug/kg)</u>
Chloromethane	0.01
Bromomethane	0.01
Dichlorodifluoromethane	0.01
Vinyl chloride	0.01
Chloroethane	0.01
Methylene chloride	0.01
Trichlorofluoromethane	0.01
1,1-Dichloroethene	0.01
1,1-Dichloroethane	0.01
trans-1,2-Dichloroethene	0.01
Chloroform	0.01
1,2-Dichloroethane	0.01
1,1,1-Trichloroethane	0.01
Carbon tetrachloride	0.01
Bromodichloromethane	0.01
1,2-Dichloropropane	0.01
trans-1,3-Dichloropropene	0.01
Trichloroethene	0.01
Dibromochloromethane	0.01
1,1,2-Trichloroethane	0.01
cis-1,3-Dichloropropene	0.01
2-Chloroethylvinyl ether	0.01
Bromoform	0.01
1,1,2,2-Tetrachloroethane	0.01
Tetrachloroethene	0.01
Chlorobenzene	0.01
1,3-Dichlorobenzene	0.01
1,2-Dichlorobenzene	0.01
1,4-Dichlorobenzene	0.01

Client: Converse Environmental West
Lab No.: H10300-02, 06, 08
Date: December 07, 1995

<u>PURGEABLE HALOCARBONS-EPA METHOD 8010</u>	<u>LIMITS OF DETECTION</u> <u>(mg/kg)</u>
Chloromethane	0.2
Bromomethane	0.2
Dichlorodifluoromethane	0.2
Vinyl chloride	0.2
Chloroethane	0.2
Methylene chloride	0.2
Trichlorofluoromethane	0.2
1,1-Dichloroethene	0.2
1,1-Dichloroethane	0.2
trans-1,2-Dichloroethene	0.2
Chloroform	0.2
1,2-Dichloroethane	0.2
1,1,1-Trichloroethane	0.2
Carbon tetrachloride	0.2
Bromodichloromethane	0.2
1,2-Dichloropropane	0.2
trans-1,3-Dichloropropene	0.2
Trichloroethene	0.2
Dibromochloromethane	0.2
1,1,2-Trichloroethane	0.2
cis-1,3-Dichloropropene	0.2
2-Chloroethylvinyl ether	0.2
Bromoform	0.2
1,1,2,2-Tetrachloroethane	0.2
Tetrachloroethene	0.2
Chlorobenzene	0.2
1,3-Dichlorobenzene	0.2
1,2-Dichlorobenzene	0.2
1,4-Dichlorobenzene	0.2



Client: Converse Environmental West
Lab No.: H10300-03, 05, 09
Date: December 07, 1995

<u>PURGEABLE HALOCARBONS-EPA METHOD 8010</u>	<u>LIMITS OF DETECTION</u> <u>(mg/kg)</u>
Chloromethane	0.1
Bromomethane	0.1
Dichlorodifluoromethane	0.1
Vinyl chloride	0.1
Chloroethane	0.1
Methylene chloride	0.1
Trichlorofluoromethane	0.1
1,1-Dichloroethene	0.1
1,1-Dichloroethane	0.1
trans-1,2-Dichloroethene	0.1
Chloroform	0.1
1,2-Dichloroethane	0.1
1,1,1-Trichloroethane	0.1
Carbon tetrachloride	0.1
Bromodichloromethane	0.1
1,2-Dichloropropane	0.1
trans-1,3-Dichloropropene	0.1
Trichloroethene	0.1
Dibromochloromethane	0.1
1,1,2-Trichloroethane	0.1
cis-1,3-Dichloropropene	0.1
2-Chloroethylvinyl ether	0.1
Bromoform	0.1
1,1,2,2-Tetrachloroethane	0.1
Tetrachloroethene	0.1
Chlorobenzene	0.1
1,3-Dichlorobenzene	0.1
1,2-Dichlorobenzene	0.1
1,4-Dichlorobenzene	0.1

Client: Converse Environmental West
Lab No.: H10300-07, 10
Date: December 07, 1995

<u>PURGEABLE HALOCARBONS-EPA METHOD 8010</u>	<u>LIMITS OF DETECTION</u> <u>(mg/kg)</u>
Chloromethane	0.4
Bromomethane	0.4
Dichlorodifluoromethane	0.4
Vinyl chloride	0.4
Chloroethane	0.4
Methylene chloride	0.4
Trichlorofluoromethane	0.4
1,1-Dichloroethene	0.4
1,1-Dichloroethane	0.4
trans-1,2-Dichloroethene	0.4
Chloroform	0.4
1,2-Dichloroethane	0.4
1,1,1-Trichloroethane	0.4
Carbon tetrachloride	0.4
Bromodichloromethane	0.4
1,2-Dichloropropane	0.4
trans-1,3-Dichloropropene	0.4
Trichloroethene	0.4
Dibromochloromethane	0.4
1,1,2-Trichloroethane	0.4
cis-1,3-Dichloropropene	0.4
2-Chloroethylvinyl ether	0.4
Bromoform	0.4
1,1,2,2-Tetrachloroethane	0.4
Tetrachloroethene	0.4
Chlorobenzene	0.4
1,3-Dichlorobenzene	0.4
1,2-Dichlorobenzene	0.4
1,4-Dichlorobenzene	0.4

ASSOCIATED LABORATORIES

806 N. Batavia • Orange, CA 92668
(714) 771-6900 • FAX: (714) 538-1209

CHAIN OF CUSTODY RECORD

Date 12/1/95 Page 1 of 7

CLIENT <u>Converse Consultants</u>	PROJECT MANAGER <u>Henry Ames</u>	Samples Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> County Seals Intact Yes <input type="checkbox"/> No <input type="checkbox"/> Sample Ambient <input type="checkbox"/> Cooled <input checked="" type="checkbox"/> Frozen <input type="checkbox"/> Same Day <input checked="" type="checkbox"/> 24 Hr. <input type="checkbox"/> Regular <input checked="" type="checkbox"/> 48 Hr. <input type="checkbox"/>
ADDRESS <u> Irvine, CA</u>	PHONE NUMBER	
PROJECT NAME <u>Prairie-stern</u>	SAMPLERS: (Signature)	

SAMPLE NUMBER	LOCATION DESCRIPTION	DATE	TIME	SAMPLE TYPE			NO OF CNTNRS	SUSP. CONTAM.	TESTS REQUIRED
				WATER	AIR	SOLID			
SP-1/1	5-5.5 Depth	12/1/95				✓	1	PLC	8010 Hold
SP-1/2	10-10.5								Hold
SP-1/3	15-15.5 30ppm								X
SP-1/4	20-20.5 250ppm								X
SP-1/5	25-25.5 500ppm								X
SP-1/6	30-30.5 25ppm								X
SP-1/7	35-35.5								Hold
SP-1/8	40-40.5								Hold
SP-2/1	5-5.5 4-4.5								Hold
SP-2/2	10-10.5 9-9.5								Hold
SP-2/3	15-15.5 14-14.5 150ppm								X
SP-3/4	20-20.5 220ppm								X

Relinquished by: (Signature) <u>Steve Maffioli</u>	2:00pm	Received by: (Signature) <u>[Signature]</u>	Date/Time <u>12/1/95</u>	I hereby authorize the performance of the above indicated work.
Relinquished by: (Signature) <u>[Signature]</u>	12/1/95	Received by Laboratory for analysis: (Signature) <u>[Signature]</u>	Date/Time <u>12/20</u>	
Special Instructions:				DISTRIBUTION: White with report. Yellow to AL, Pink to Courier

ASSOCIATED LABORATORIES

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CHAIN OF CUSTODY RECORD

Date 12/1/95 Page 2 of 2

CLIENT <u>Converse Consultants</u>		PROJECT MANAGER <u>Henry Ames</u>				Samples Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> County Seals Intact Yes <input type="checkbox"/> No <input type="checkbox"/> Sample Ambient <input type="checkbox"/> Cooled <input type="checkbox"/> Frozen <input type="checkbox"/> Same Day <input checked="" type="checkbox"/> 24 Hr. <input type="checkbox"/> Regular <input type="checkbox"/> 48 Hr. <input checked="" type="checkbox"/>			
ADDRESS <u>Irvine, CA</u>		PHONE NUMBER							
PROJECT NAME <u>Prowestern</u>		SAMPLERS: (Signature)							

SAMPLE NUMBER	LOCATION DESCRIPTION	DATE	TIME	SAMPLE TYPE			NO OF CNTNRS	SUSP. CONTAM.	TESTS REQUIRED
				WATER	AIR	SOLID			
SP-2/5	25-25.5 ^{300ppm} _{DEPT H}	12/1/95				✓	1	PCF	X 8010
SP-2/6	30-30.5 ^{250ppm}								X
SP-2/7	35-35.5 ^{250ppm}								HOLD
SP-3/1	5-5.5								HOLD
SP-3/2	10-10.5								HOLD
SP-3/3	15-15.5 ^{50ppm}								HOLD
SP-3/4	20-20.5 ^{10ppm}								X
SP-4/5	25-25.5 ^{320ppm}								X

Relinquished by: (Signature) <u>Steve Maffucci</u>	2:00pm 12/1/95	Received by: (Signature) <u>[Signature]</u>	Date/Time <u>12/1/95</u>	I hereby authorize the performance of the above indicated work. DISTRIBUTION: White with report. Yellow to AL, Pink to Courier
Relinquished by: (Signature)		Received by Laboratory for analysis: (Signature) <u>[Signature]</u>	Date/Time <u>12/1/95</u>	
Special Instructions:				